

ABSTRACT

A reflective liquid crystal display (LCD) device includes a plurality of openings patterned in the pixel metal layer in the peripheral region of the device exposing the insulating layer beneath, a plurality of light-shielding islands beneath the openings in the pixel metal layer, and a plurality of walls formed on the islands surrounding the openings and extending substantially between the islands and the pixel metal layer. A plurality of spacers are disposed on the exposed portions of the insulating layer in the peripheral region for supporting the transparent (e.g., glass) layer above and providing a space for the liquid crystal material. The structure enhances display uniformity by making the spacers formed in the peripheral area more closely match the spacers formed in the pixel area of the device. The structure also prevents light from reaching the substrate in the peripheral region of the device and permits portions of the second metal layer formed in the peripheral region of the device to be used for signal routing.